nova™ VIKING

BY/PAR: KING INDUSTRIAL dvr™

# 16” NOVA VIKING DVR DRILL PRESS

Digital Variable Reluctance
Direct Drive Technology


Teknatool INTERNATIONAL

www.teknatool.com

MODEL: 83705

# INSTRUCTION MANUAL

KING INDUSTRIAL

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# WARRANTY INFORMATION

| 2-YEAR<br>LIMITED WARRANTY<br>FOR THIS NOVA VIKING DRILL PRESS | KING CANADA TOOLS<br>OFFERS A 2-YEAR LIMITED WARRANTY<br>INTENDED FOR NON COMMERCIAL USE |
|---|---|

## PROOF OF PURCHASE

Please keep your dated proof of purchase for warranty and servicing purposes.

## REPLACEMENT PARTS

Replacement parts for this product are available at our authorized King Canada service centres across Canada. Please use the 10 digit part numbers listed in this manual for all part orders where applicable.

## LIMITED TOOL WARRANTY

King Canada makes every effort to ensure that this product meets high quality and durability standards. King Canada warrants to the original retail consumer a 2-year limited warranty as of the date the product was purchased at retail and that each product is free from defects in materials. Warranty does not apply to defects due directly or indirectly to misuse, abuse, normal wear and tear, negligence or accidents, repairs done by an unauthorized service centre, alterations and lack of maintenance. King Canada shall in no event be liable for death, injuries to persons or property or for incidental, special or consequential damages arising from the use of our products.

To take advantage of this limited warranty, return the product at your expense together with your dated proof of purchase to an authorized King Canada service centre. Contact your retailer or visit our web site at www.kingcanada.com for an updated listing of our authorized service centres. In cooperation with our authorized serviced centre, King Canada will either repair or replace the product if any part or parts covered under this warranty which examination proves to be defective in workmanship or material during the warranty period.

## NOTE TO USER

This instruction manual is meant to serve as a guide only. Specifications and references are subject to change without prior notice.

**KING CANADA INC. DORVAL, QUÉBEC, CANADA H9P 2Y4**

**www.kingcanada.com**

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# GENERAL SAFETY RULES

1. **FOR YOUR OWN SAFETY, READ THE MANUAL BEFORE OPERATING THE TOOL**. Learn the machine's application and limitations, plus the specific hazards particular to it.
2. **ALWAYS USE A FULL FACE SHIELD**-Strongly recommended (must be ANSI approved) Everyday eyeglasses usually are only impact resistant and safety glasses only protect eyes. A full face shield will protect the eyes and face. Also use face or dust mask if cutting operation is dusty.
3. **WEAR PROPER APPAREL**. Do not wear loose clothing, gloves, neckties, rings, bracelets or other jewelry which may get caught in moving parts. Non slip footwear is recommended. Wear protective hair covering to contain long hair.
4. **USE EAR PROTECTORS**. Use ear protectors for extended period of operation.
5. **DON'T USE IN DANGEROUS ENVIRONMENT**. Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted. The NOVA Viking DVR Drill press is intended for indoor use only. Failure to do so may void the warranty.
6. **KEEP WORK AREA CLEAN**. Cluttered areas and benches invite accidents. Build-up of sawdust is a fire hazard.
7. **KEEP CHILDREN AND VISITORS AWAY**. The Nova Viking DVR is not recommended for children and infirm persons. Such personnel and onlookers should be kept a safe distance from work area.
8. **MAKE WORKSHOP CHILDPROOF** with locks, master switches, or by removing starter keys.
9. **GROUND ALL TOOLS**. If the tool is equipped with a three-prong plug, it should be plugged into a three-hole electrical receptacle. Never remove the third prong.
10. **MAKE SURE TOOL IS DISCONNECTED FROM POWER SUPPLY** while the motor is being mounted, connected, or reconnected.
11. **DISCONNECT TOOLS FROM WALL SOCKET** before servicing and when changing accessories such as bits, cutters and fuses etc.
12. **AVOID ACCIDENTAL STARTING**. Make sure switch is in the "Off" position before plugging in power cord.
13. **NEVER LEAVE MACHINE RUNNING UNATTENDED**. Do not leave machine unless it is turned off and has come to a complete stop.
14. **KEEP GUARDS IN PLACE** and in working order.
15. **USE CORRECT TOOLS**. Do not use a tool or attachment to do a job for which it was not designed.
16. **USE RECOMMENDED ACCESSORIES**. The use of improper accessories may cause hazards.
17. **DON'T FORCE THE TOOL**. It will do the job better and be safer at the rate for which it was designed.
18. **MAINTAIN TOOLS IN TOP CONDITION**. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
19. **NEVER STAND ON TOOL**. Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted.
20. **REMOVE ADJUSTING KEYS AND WRENCHES**. Form a habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
21. **DIRECTION OF FEED**. Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
22. **PAY ATTENTION TO WORK**. Concentrate on your work. If you become tired or frustrated, leave it for a while and rest.
23. **SECURE WORK**. Use clamps or a vice to hold work when practical. Severe injury or death can occur if an object comes free as it can become a dangerous projectile.
24. **CHECK DAMAGED PARTS**. Before further use of the tool, any part that is damaged should be carefully checked to ensure that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, mounting, and any other conditions that may affect its operation. Any damaged part should be properly repaired or replaced.
25. **DRUGS, ALCOHOL, MEDICATION**. Do not operate machine while under the influence of drugs, alcohol, or any medication.
26. **DUST WARNING**. The dust generated by certain woods and wood products can be harmful to your health. Always operate machinery in well-ventilated areas and provide means for proper dust removal. Use wood dust collection systems whenever possible.
27. **DO NOT MODIFY OR USE DRILL PRESS FOR USES OTHER THAN FOR WHICH IT WAS DESIGNED.**

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# SPECIFIC SAFETY RULES/ INVENTORY

1. **SEEK INSTRUCTION.** If you are not thoroughly familiar with the operation of drill press, obtain advice from your supervisor, instructor, or other qualified person. Instruction from a qualified person is strongly recommended.
2. **DO NOT OPERATE DRILL PRESS** until it is completely assembled and installed. Follow instructions and recommendations.
3. **FOLLOW ELECTRICAL CODES.** Make sure wiring codes and recommended electrical connections are followed and that the machine is properly grounded.
4. **WHEN REPLACING THE FUSE** (on relevant models), completely isolate power when removing the fuse. It is imperative the plug is removed from the power supply before the fuse is removed. Replace fuse cap before reconnecting to power.
5. **DO NOT OPEN THE SWITCH AND REAR COVERS.** Components can carry dangerous voltages even when isolated from main power.
6. **KEEP WORK AREA CLEAN.** Do not turn the drill press on before clearing the drill press of all objects (tools, scraps of wood, etc.). Keep the nearby area and floor clear of debris.
7. **CHECK SET-UP** with spindle off. Examine the set-up carefully and rotate the work piece by hand to check clearance and check speed is correctly selected before turning on spindle.
8. **DO NOT MAKE ADJUSTMENTS** when the drill press spindle is turning. Make all adjustments with power OFF, with the exception of changing speeds.
9. **TIGHTEN ALL CLAMP HANDLES** on the drill press before operating drill press.
10. **ALWAYS CHECK CORRECT SPEED IS SELECTED BEFORE SWITCHING ON DRILL PRESS.**
11. **OPERATE AT RECOMMENDED SPEED.** Always operate the drill press at the recommended speeds. Consult the built in speed chart on the drill press for suggested speeds.
12. **DO NOT OPERATE DRILL PRESS IF DAMAGED OR FAULTY.** If any part of your drill press is missing, damaged or broken, in any way, or any electrical component fails, shut off the drill press and disconnect the drill press from the power supply. Replace missing, damaged, or failed parts before resuming operation.
13. **ADDITIONAL SAFETY INFORMATION** regarding the safe and proper operation of this product is available from the National Safety Council, 444 N. Michigan Avenue, Chicago, IL 60611 in the Accident Prevention Manual of Industrial Operations and also in the Safety Data Sheets provided by the NSC. Also refer to the American National Standards Institute ANSI 01.1 Safety Requirements for Woodworking Machines and the U.S Department of Labor OSHA 1910.213 Regulation.

**Inventory**

1- Viking drill press body & column
2- Base
3- Table
4- Table insert
5- Chuck drift key
6- Chuck Key
7- Chuck
8- Arbor
9- Down feed Handle (3)
10- Lock handle (2)
11- Handle
12- Wrench
13- Firmware Upgrade Cable

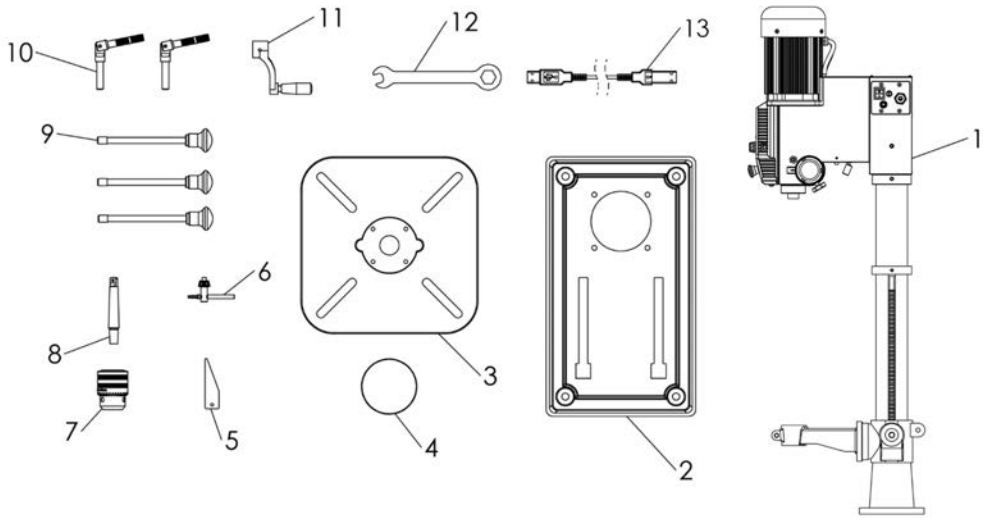


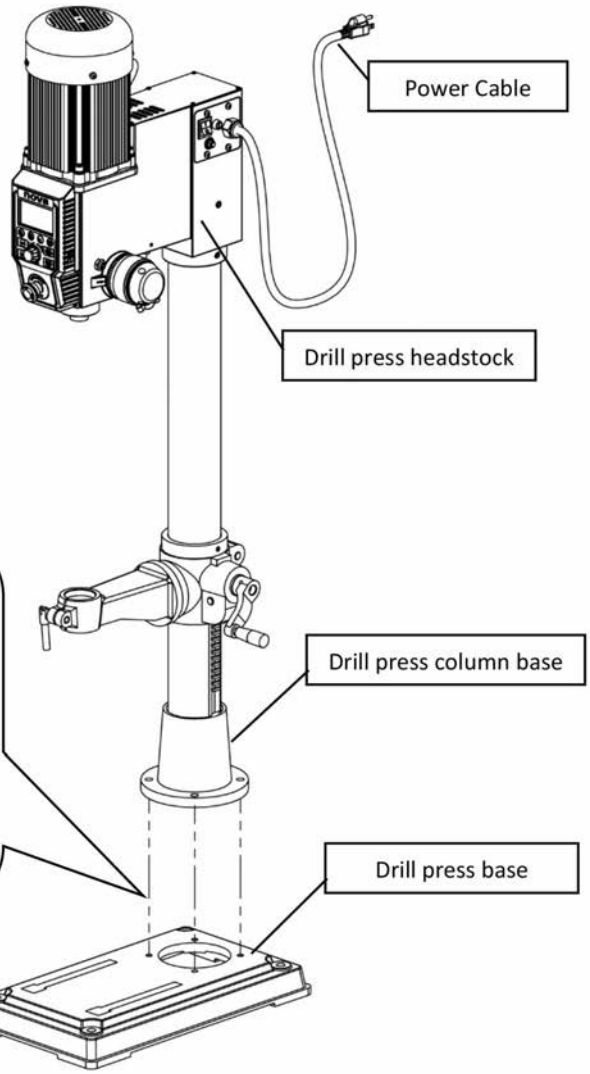

**FIGURE 1**

## Drill Press Body

The NOVA Viking drill press come with its headstock preassembled with its main column.

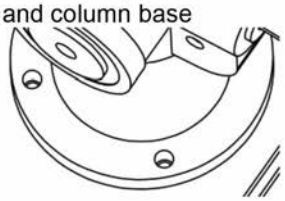
**⚠Caution**

The headstock assembly can be heavy and it is a subject to tip over. **It is recommended to have at least 2 people when assembling the drill press**.

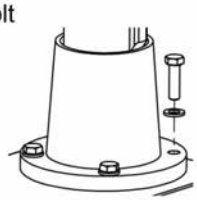



### Attaching the drill press base

1. Align the thread holes on the drill press base and column base



2. Bolt the bases together with the M10 bolt

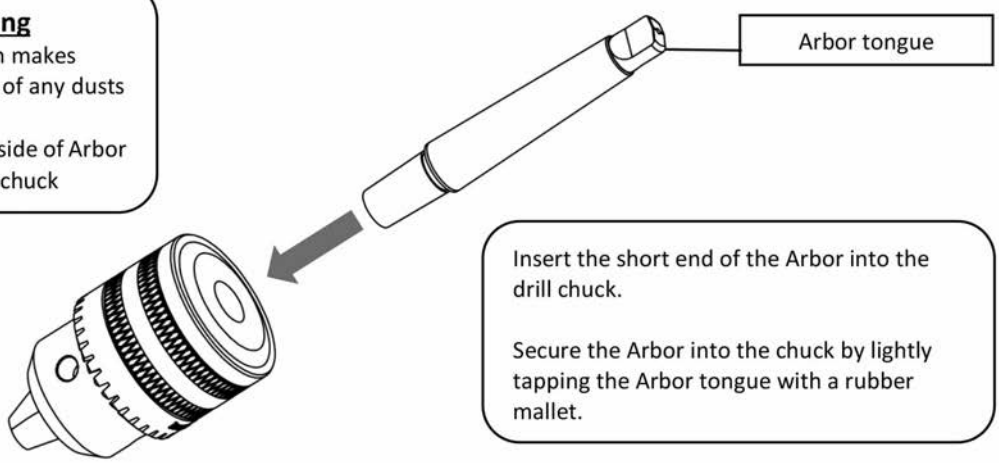


## Drill Chuck and Arbor

**Before assembling**

Wipe down all surfaces which makes contact with other parts free of any dusts or lubricants.

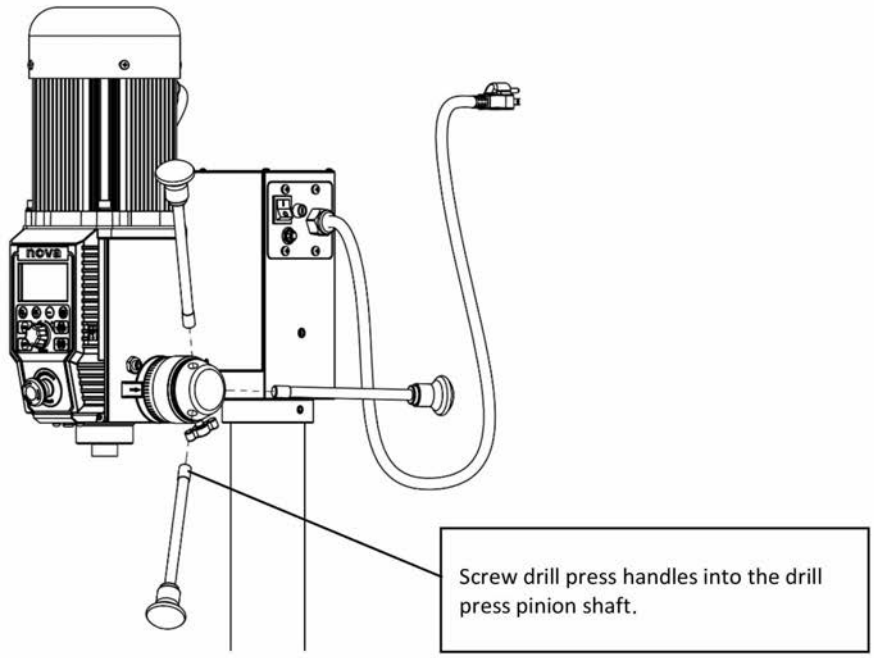
- Both long and short side of Arbor
- Tapered hole of the chuck




Insert the short end of the Arbor into the drill chuck.

Secure the Arbor into the chuck by lightly tapping the Arbor tongue with a rubber mallet.

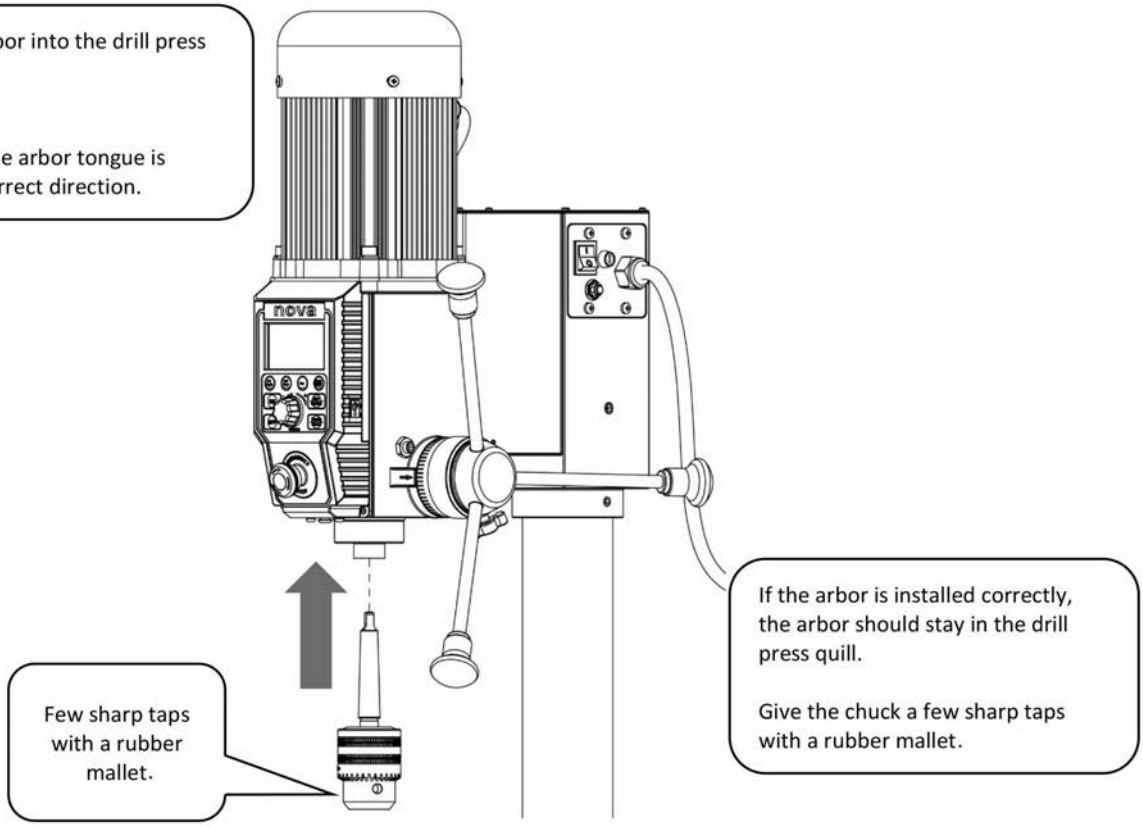
## Drill Press Handles




## Chuck and Arbor Assembly

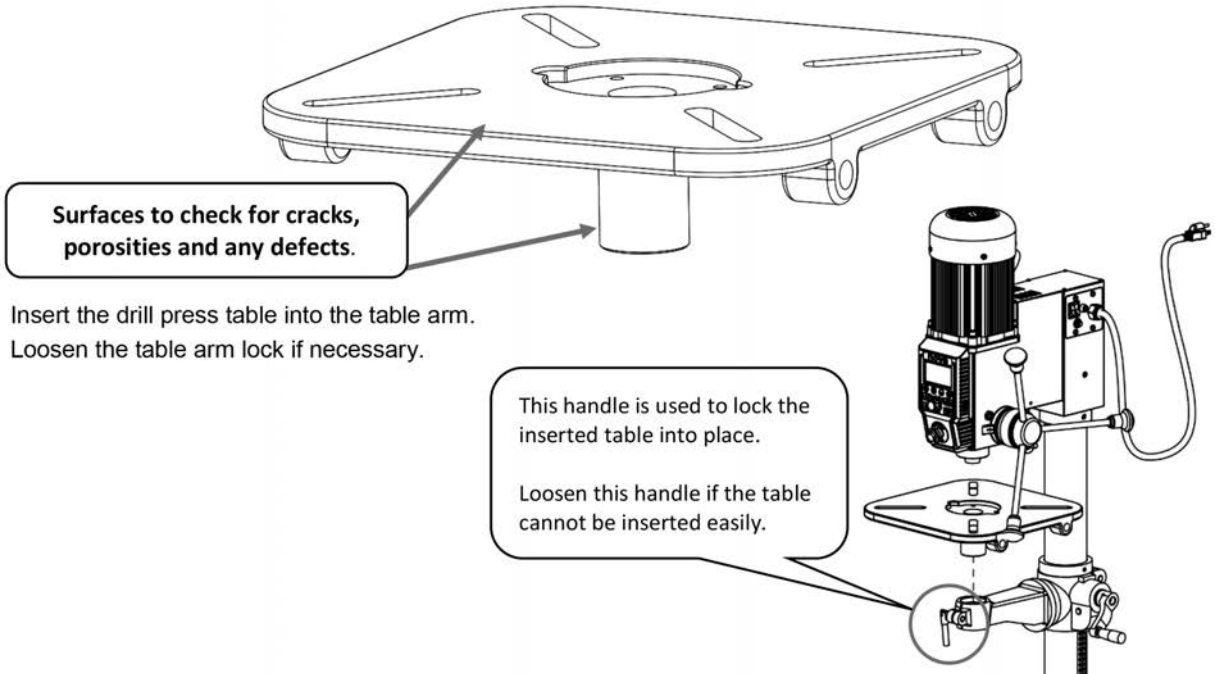
Insert the arbor into the drill press quill.

**Note:**
Make sure the arbor tongue is facing the correct direction.



## Attaching the Drill Press Table

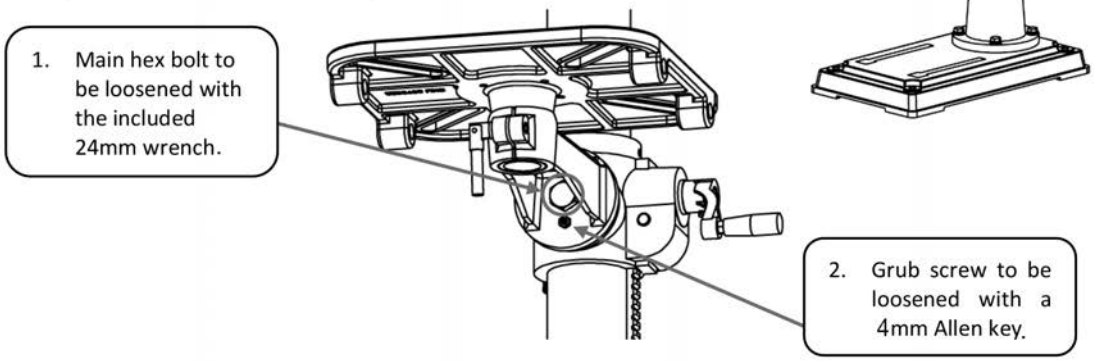
Take the drill press table out from the packaging and inspect all surfaces for and defects (i.e. Stains, rusts, fractures, scratches) on the machined cylindrical part of the table.



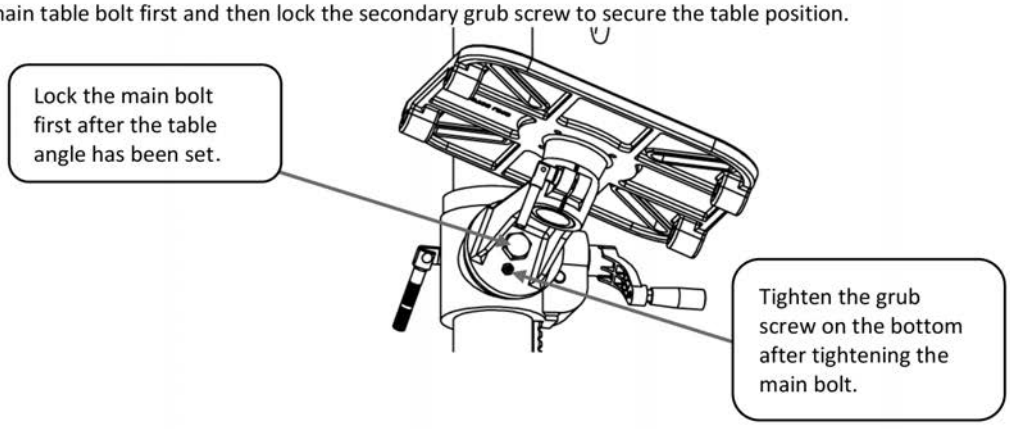

Insert the drill press table into the table arm.
Loosen the table arm lock if necessary.

## Tilting the table

Loosen the main table bolt with a 24mm wrench and loosen the smaller grub screw with <Allen Key>.




Lock the main table bolt first and then lock the secondary grub screw to secure the table position.



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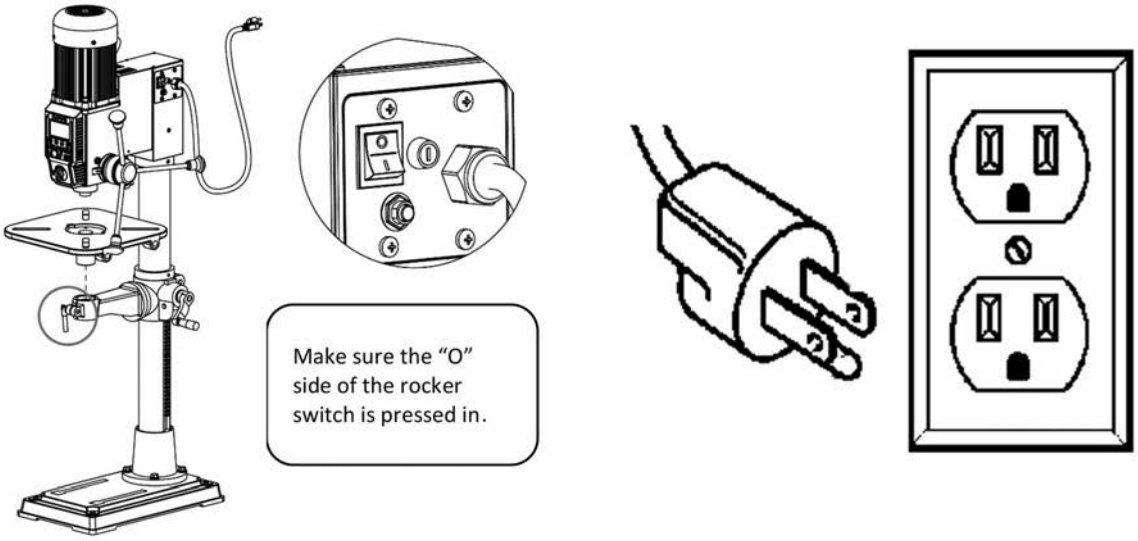
# CONNECTING TO POWER/ SETTING UP YOUR DRILL PRESS

## Warning!

**Improper power connection may result in a risk of electrical hazard.**

Make sure of the following before plugging the NOVA Viking drill press into the power source:

1. The main power switch is turned off.
2. Power source is switched off.




The power cord that is installed on the NOVA Viking drill press will have a three-prong plug which includes a ground prong. The plug must be connected to a matching outlet that is properly installed and grounded in accordance with local electrical codes.

**For 115V outlet only:**
A temporary adapter can be used to plug into a two-pole outlet if a three-prong outlet is unavailable in your environment. The ground tab on the adapter must be connected to the screw on the outlet for proper grounding. This adaptor should only be used until a qualified electrician can install a properly grounded outlet.

**Note:**
If an extension cable is required, make sure to check the following:

1. Extension cable gauge.
2. Is the cable properly insulated?

If in any doubt, please contact your local electrician to inspect the cord according to the local electrical standards before using it.

**IMPORTANT:**
A surge protection device must be used when using the drill press.

A surge protection device must be rated to at least 15A should be used in countries where 115V are used as a standard. In countries where 240V is used, a surge protector must be rated to either 10A or 15A.

A surge protector with Joules rating of 3900J will be suitable for DVR motors.

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# CONNECTING TO POWER/ SETTING UP YOUR DRILL PRESS

### Ground Fault Interrupters (GFI)

For a GFI to be compatible with the DVR motor, it must have a **leak current threshold rating of 30mA (0.03A)**.

**Note:**
Normal household GFI will typically be rated at 5mA (0.005A) which may trigger during the operation of the DVR motor. However, frequent tripping of the GFI will not cause any harm to the DVR motor or its control electronics as it has a built-in protective circuit to prevent damage from frequent switching.

## Setting up your drill press

### Setting up your workshop environment

Your workshop should set up appropriately for you to effectively use the drill press. The workshop should be setup with the following factors taken into consideration:

1. **Drill press location**
   - Locate the NOVA Viking drill press close to a power source in an area with good amount of lighting. Leave enough clearance when the drill press table is swivelled around. Other machines in the workshop should not interfere with the movement/ operation of the drill press.

2. **Lighting**
   - The work shop should have adequate lighting. There should be enough lighting around the drill press not to cast shadows upon the workpiece. If possible, locate the drill press near a window. A portable spotlight might be helpful.

3. **Electrical**
   - The NOVA Viking drill press requires an appropriate power outlet nearby to power the motor. The outlet wiring must meet the local electrical safety standards. If in any doubt, seek advice from an electrician. The length of an extension cable should be reduced as much as possible.

4. **Ventilation**
   - Workshop must have an adequate level of ventilation. The level of required ventilation depends on the size of the workshop and the amount of work that is done within the workshop. The use of dust collectors and filters will minimize your health risk.

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# DRILL PRESS INTERFACE

## Keypad Buttons


## Display Icons


The icons are lit on the screen to indicate various information shown on the screen. The table on the next page explains the definitions of each icons displayed on the screen.

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# DRILL PRESS INTERFACE

| *Icon* | *Description* |
|---|---|
|  | The number showed on the screen is spindle setting Speed |
| POW | The number showed on the screen is Power output percentage |
|  | Light ON |
|  | Laser ON |
| Depth Stop  | The number showed on the screen is Depth of the spindle |
| Self Start | Self-Start ON |
| REV  | Spindle in Rev direction |
| % | Power output percentage |
| rpm | Revolutions per minute |
| mm | Metric |
| in | Imperial (current default) |
|  | Imperial Fraction Mode |
|  | Customizes bar graph setting (depth bar current default) |
|  | Error warning |
|  | E-stop |

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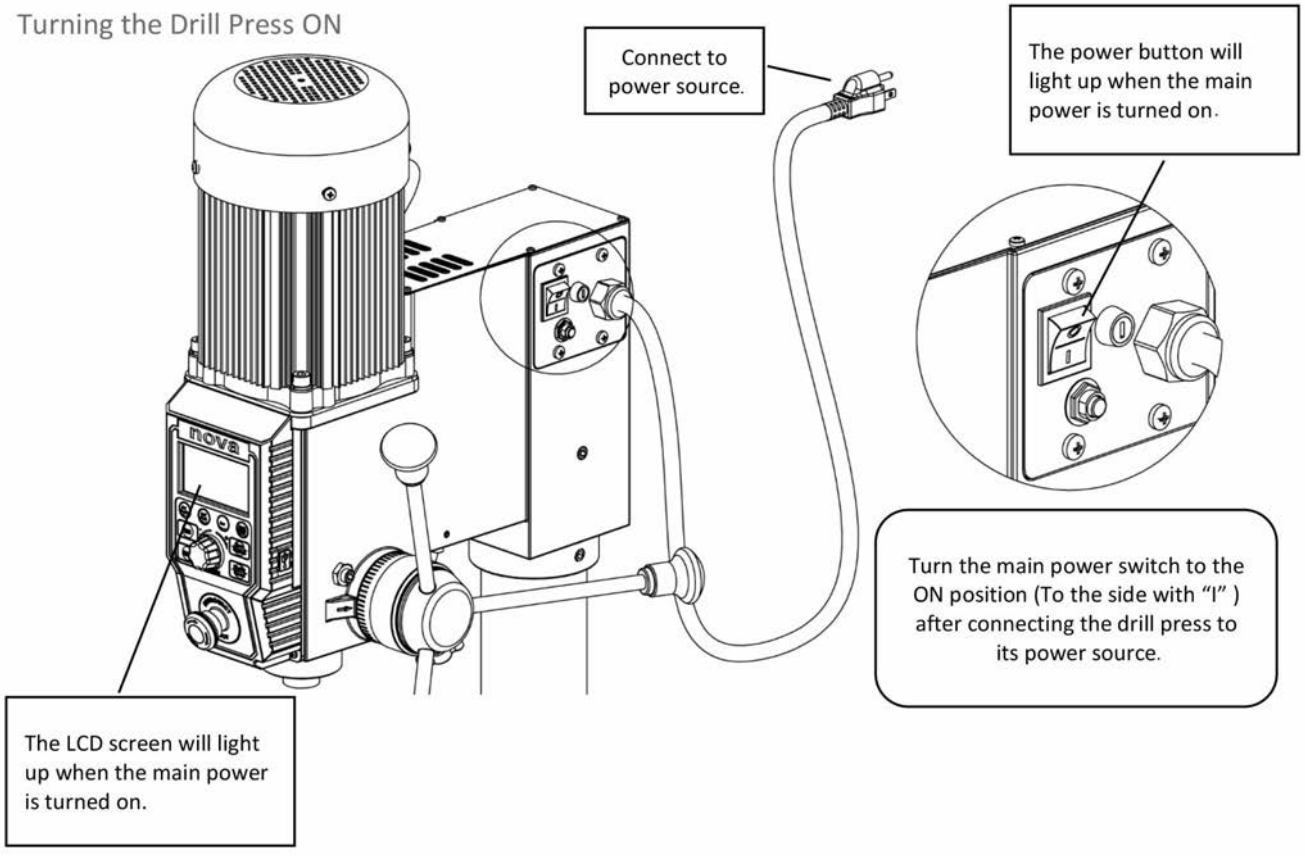
# SPECIFICATIONS/ USING DVR DRILL PRESS

Drill Press Specifications

| Drill Press Physical Specifications | |
|---|---|
| **Swing** | 16” (406.4mm) |
| **Stroke** | 4.5” (114.3mm) |
| **Chuck to Table** | 26 5/8” (676.27mm) |
| **Chuck to Base** | 46 3/4” (1187.45mm) |
| **Drill Chuck** | 5/8” (1- 16mm) |
| **Spindle Taper** | MT 2 |
| **Quill Diameter** | 60mm |
| **Table Dimension** | 320 x 320mm |
| **Base Dimension** | 468.7 x 270 x 55mm |
| | |
| **Motor Specifications** | |
| **Motor Type** | DVR Direct Drive Smart Motor |
| **Motor power output** | 1HP (0.75KW) |
| **Maximum Speed** | 3000 RPM (6000 RPM when unlocked) |
| **Minimum Speed** | 150 RPM |
| **Input voltage** | 110V ~ 220V |
| **Input Frequency** | 50/60 Hz |
| **Input Current** | 15A (max) |

Turning the Drill Press ON



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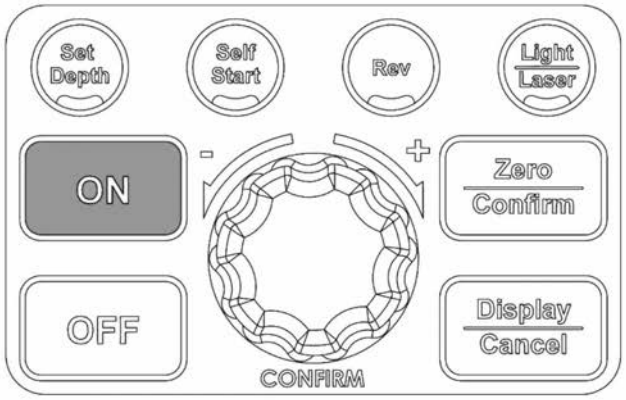
# USING DVR DRILL PRESS

## Basic Drill Press Functions

### Running the drill press

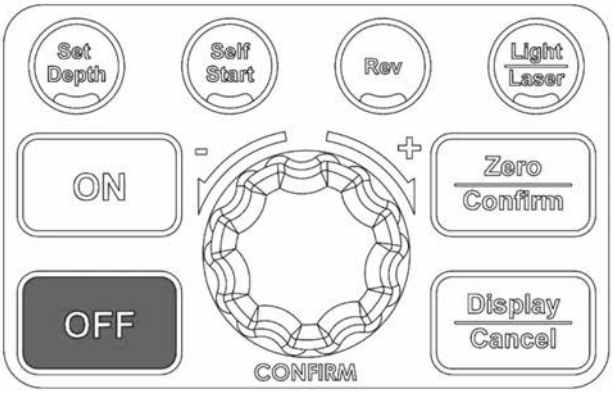
Press the **<ON>** button on the interface panel to start the drill press at any time.

**Note:**
The drill press motor will start running at the speed that it was last set to therefore make sure to check the set speed of the drill press before starting at all times.




### Stopping the drill press

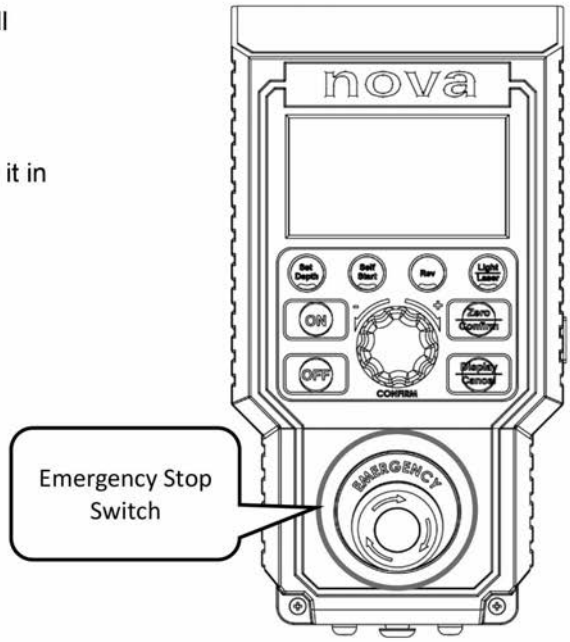
Press the **<OFF>** button to stop the drill press while it is operational.




### Emergency Stop

Press/ hit the emergency stop switch on the HMI panel to bring the machine to a complete halt.

**Note:**
The machine cannot be restarted until the emergency stop switch is depressed by twisting it in the clockwise direction.



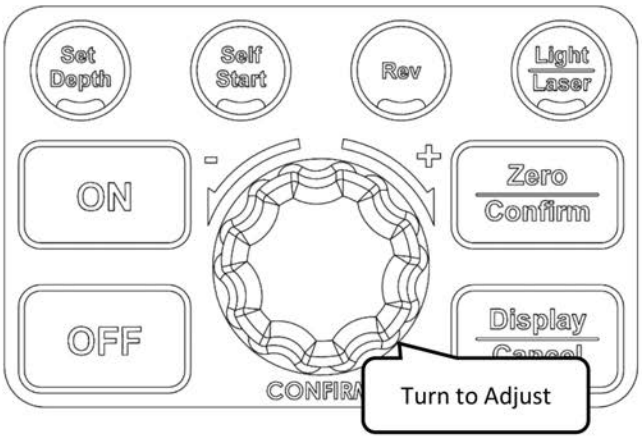
## Adjusting the speed

Turn the speed knob to adjust the drill press motor set speed at all times.

Turn the speed knob in the clockwise direction to increase the set speed.

Turn the speed knob in the anti-clockwise direction to decrease the set speed.

**Note:**
The drill press set speed can be adjusted at any time while the drill press is turned on. When the set speed knob is turned, the HMI screen will automatically display the current set speed on the drill press.




## Changing the display mode

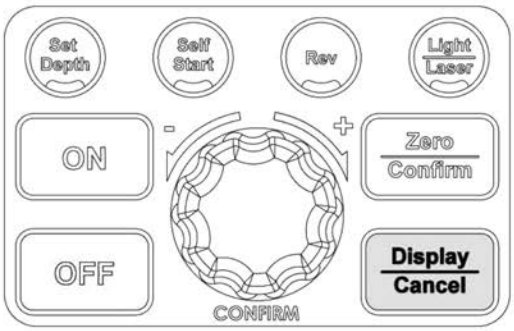
*Display modes on the NOVA Viking Drill Press*

There are 3 display modes available on the NOVA Viking drill press:

1. Depth
2. Speed
3. Power

Press the **<Display/ Cancel>** button to sequentially cycle through each of the available display modes.

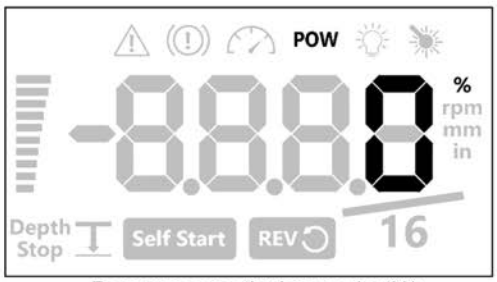
The display modes are indicated by the highlighted icons on the HMI screen.





Depth Display Mode (In desired units)


Rotational Speed Display Mode (rpm)




Power usage display mode (%)

## Changing the measurement units

*Measurement units available on the NOVA Viking Drill Press*

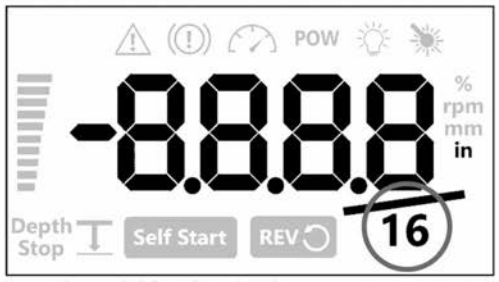
There are 3 types of measurement units available on the HMI screen:

1. Imperial decimal – Rounded to 0.005" (default)
2. Imperial fraction – 1/16th inch increments
3. Metric units – Millimetres

Hold down the **<Display/ Cancel>** button for 3 seconds unit a beeping noise is heard from the HMI.
Once the beeping noise is heard, the HMI will change the displayed measurement units
The set measurement units will be indicated on the HMI by the highlighted icons.


Milimeter depth measurement

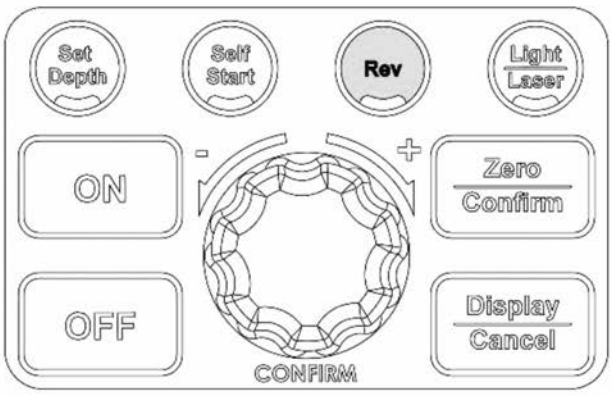

Imperial depth measurement




Imperial fraction depth measuermrent

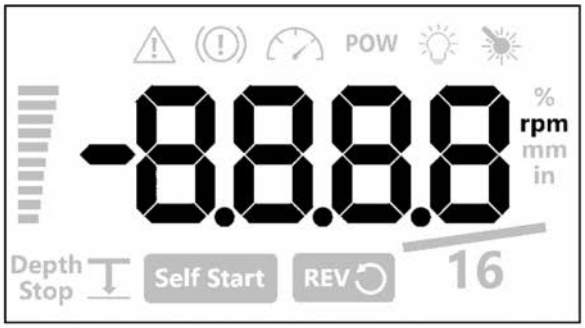
## Switching between forward and reverse

Press the **<Rev>** button to switch between the forward and reverse mode.




When the drill press is on reversing mode the reverse icon will be highlighted.

When the drill press is on forward mode, this icon will not be highlighted.

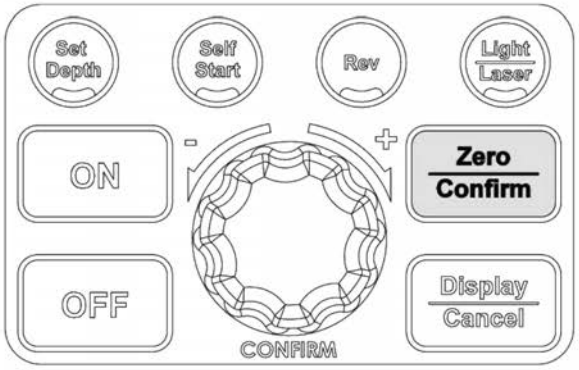



**Note:**
The forward and reverse mode cannot be switched immediately while the drill press motor is running. Drill press must be completely stationary to switch between forward and reverse operations.

## Zeroing the depth

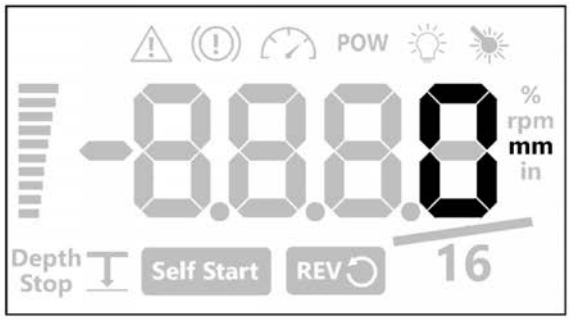
This is also known as referencing the depth. This function will let the machine know where to start counting the depth from.

Press the **<Zero/ Confirm>** button to zero the depth reading on the drill press.




The depth read out will be set to zero at the current extension of the quill.

E.g. If the quill is extended by 20mm and when the depth read out is zeroed, the depth will start counting positive from the 20mm position.



## Using the light and lasers

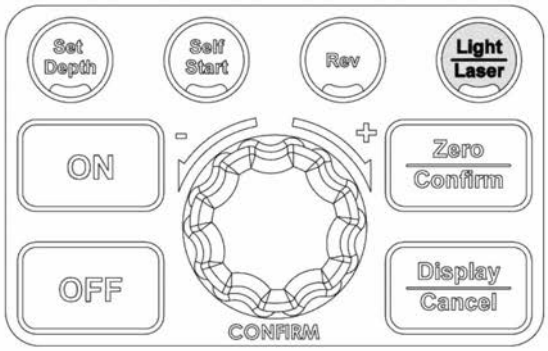

*Available laser and light modes*

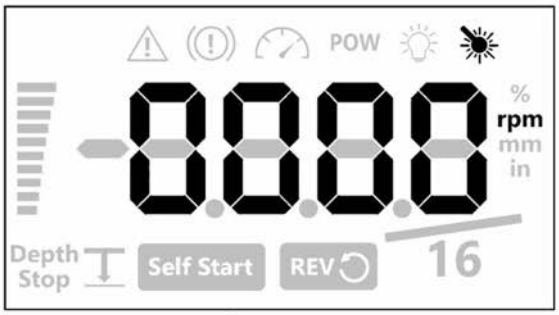
There are 3 laser and light modes available on the NOVA Viking drill press:

1. Both laser and light on.
2. Laser on and light off.
3. Laser off and light on.

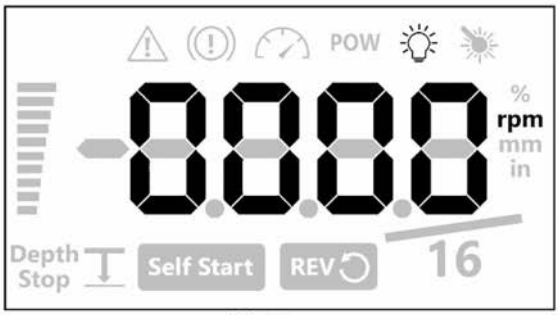
Press the **<Light/ Laser>** button to cycle through each of the available modes on the NOVA Viking drill press.

Each of the modes can be identified as the icons will be highlighted to indicate which function is turned on.

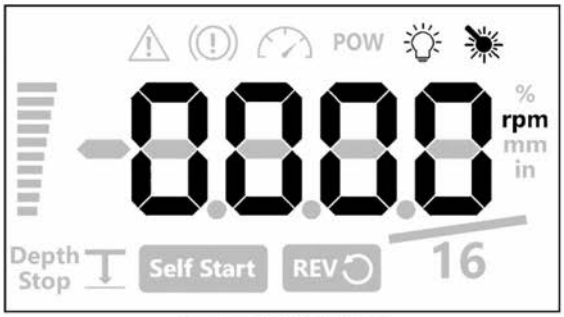


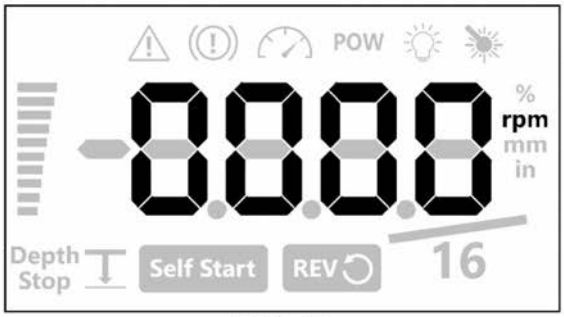

Laser on




Light on




Laser and light on




Both off

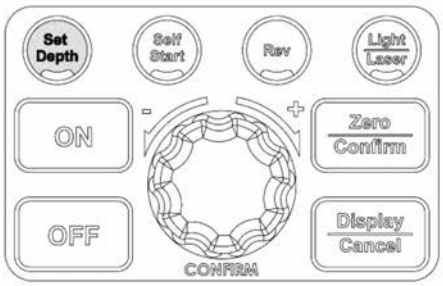
The laser not accurately aligning?
Refer to the Troubleshooting Guide in this manual on how to adjust the laser modules.

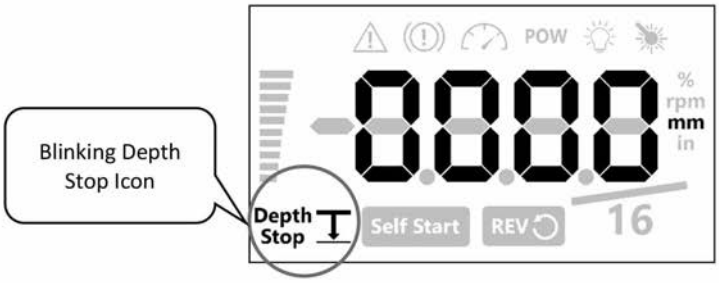
Intermediate Functions

## Using the electronic depth stop function

*Setting the stop depth value*

Press the **<Set Depth>** button to enter the set depth mode of the drill press. In this mode, the Depth Stop icon will be blinking.

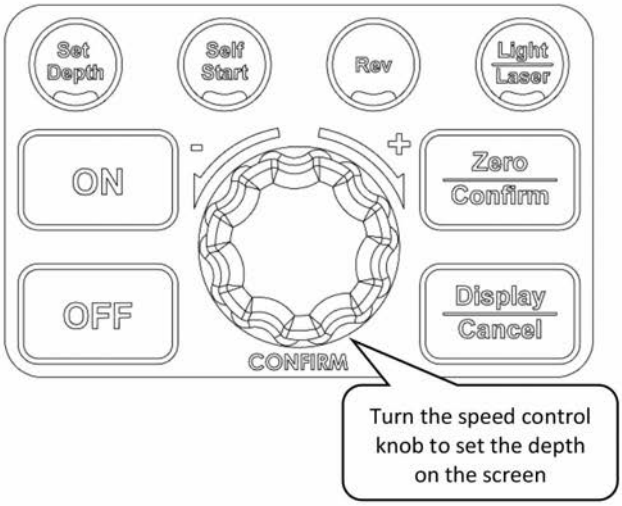



Set the desired depth (measured in the selected units) by turning the speed knob in the clockwise direction to increase the set depth that is displayed on the screen.

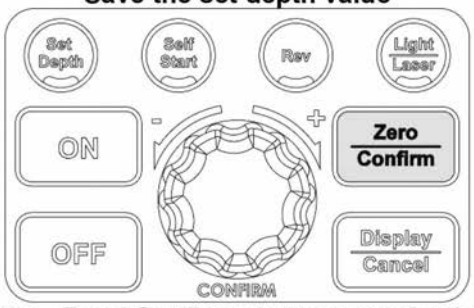
Turn the speed knob in the anti-clockwise direction to increase the set depth that is displayed on the screen.

**Note:**
Turn the speed knob for a fine adjustment.
Press and turn the speed knob for a coarse adjustment.



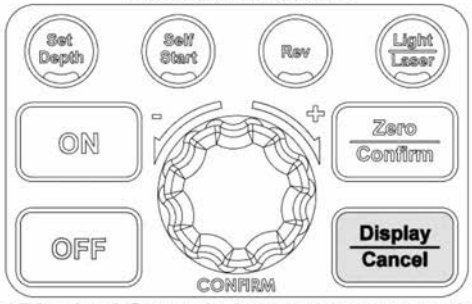

Once the set depth is entered on the screen

**Save the set depth value**




Press the **<Zero/ Confirm>** button once the desired depth is entered on the screen to save the set depth. The depth stop icon will stay lit if the set depth value is saved successfully.

**Cancel and Return**



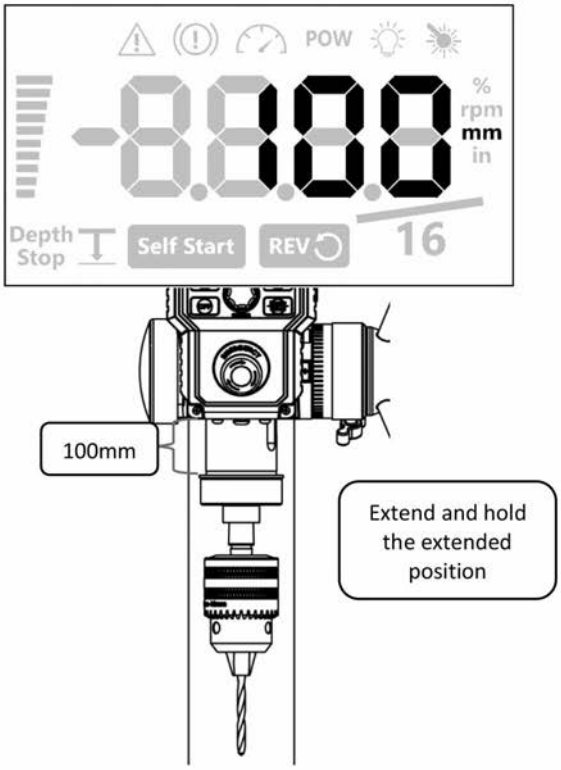

Press **<Display/ Cancel>** button to return to the default screen without saving.

# USING DVR DRILL PRESS

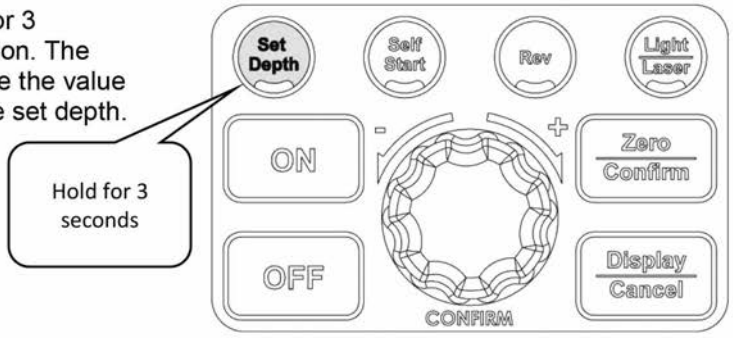
## Quick Set Depth Function

This function provides a faster method to set the depth stop value however, it may be difficult to set the exact desired depth value with this function.

Extend the drill press quill down to the point where it displays the desired depth value.




Press and hold the **<Set Depth>** button for 3 seconds while holding the quill in its position. The HMI will beep and it will automatically save the value that is displayed on the HMI screen as the set depth.




**Note:**

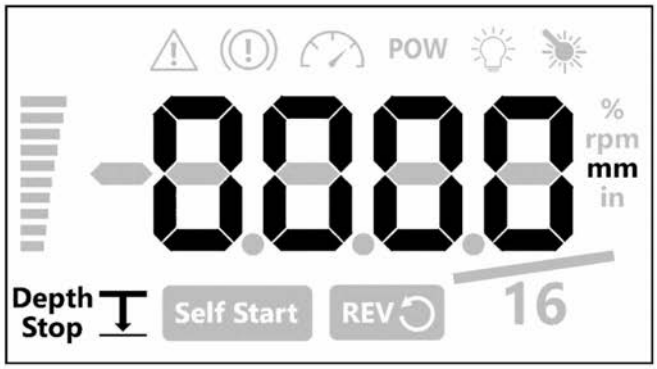
The quick depth stop function will save the exact value that is being shown on the screen. The value will not be rounded when it is being saved therefore a more precise setting can be achieved quickly with this function.

Using this quick set function while the height is within 5mm (3/16") from the top position will turn off the set depth function.

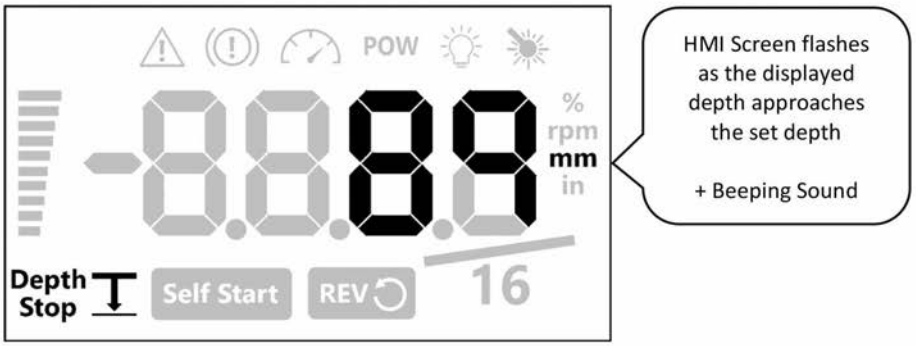
## Electronic Depth Stop Function

Once the stop depth value is specified and saved onto the machine, the electronics depth stop function is activated.

The activation of the electronic depth stop function is indicated by the icon on the HMI screen shown below:




As the drill press readout approaches the set depth, the drill press screen will start to blink and HMI will start to beep.



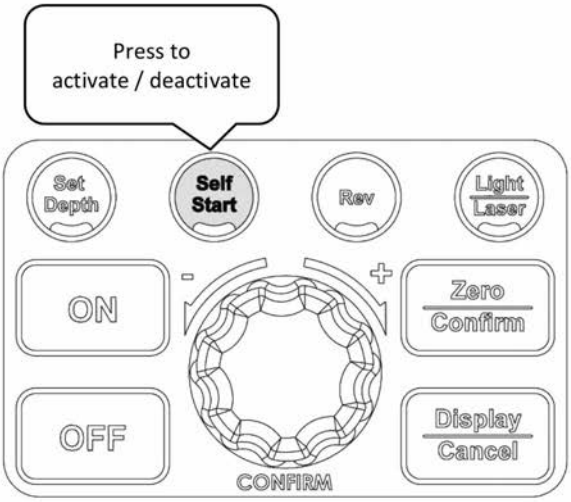

**Note:**
The screen blinking and beeping frequency will become faster as the depth read out becomes closer to the set depth value.

Drill press will stop when the drill press depth reading reaches the set depth value. To change the drill press behaviour when the set depth is reached can be changed refer to page Changing the drill press depth stop behaviour.

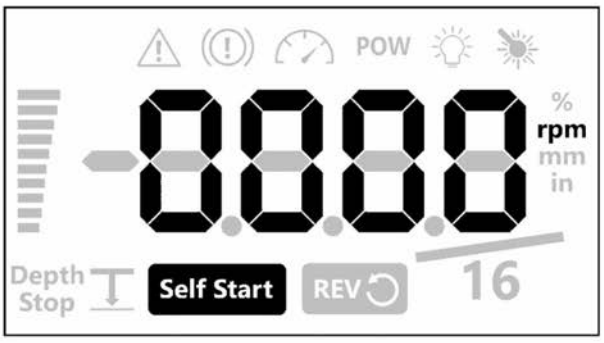
### Using the Self-Start Function

Press the **<Self Start>** button to activate the self-start function.

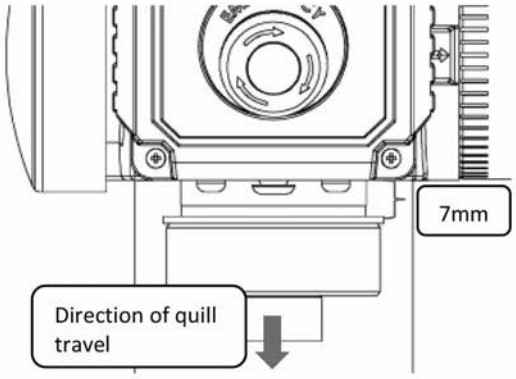
Press the **<Self Start>** button to deactivate the self-start function.



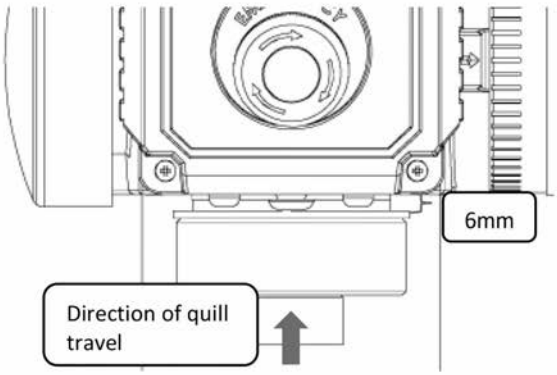
The activation of the self-start function is indicated by the self-start icon on the bottom of the HMI display.




**Note:**
The self-starting depth is approximately 7mm from the top. This value is based on the absolute sensor readout value therefore the threshold value will not be affected by any depth value offset made by the user.
The drill press will stop once the quill has been retracted back to 6mm depth.




Motor automatically start with self start function

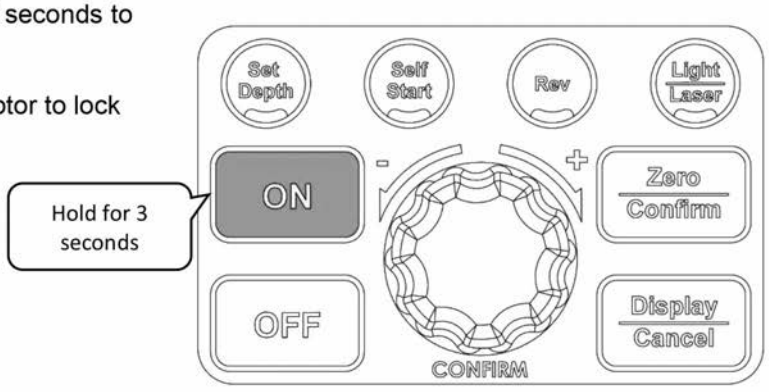



Motor automatically stops with self start function

## Power Spindle Hold Function

Press and hold the **<ON>** button on for 3 seconds to activate.

The drill press will apply power on the motor to lock the spindle in position for 30 seconds.




**Note:**
This function is to allow easy hand tightening of a keyless chuck.

# USING DVR DRILL PRESS

Advanced Functions

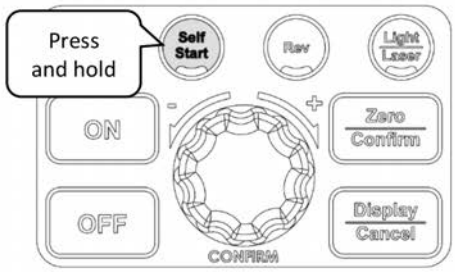
## Performing a Factory Reset

Press and hold the **<Self Start>** button and then press the **<OFF>** button.

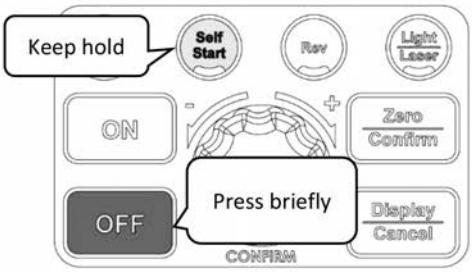
**Note:**
Do not release the **<Self Start>** button.

Hold the **<Self Start>** button for another 1~2 seconds and then release.

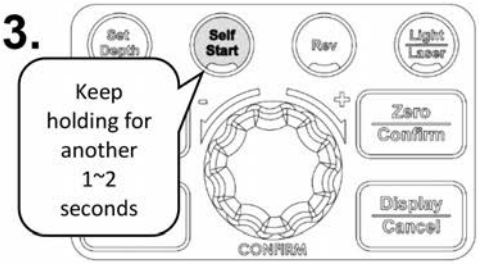
**1.**




**2.**




**3.**




The factory reset will also reset the Self Start Depth threshold.

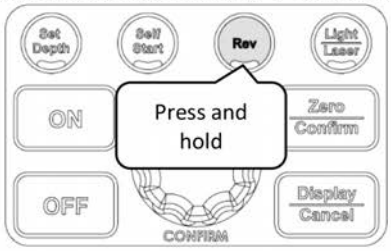
## Turning the sound on or off

Press and hold the **<Rev>** button and press the **<OFF>** button.

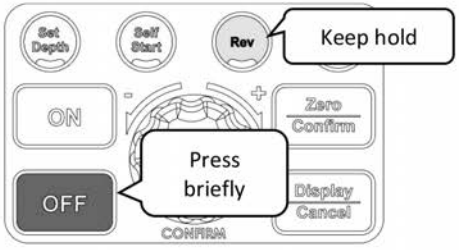
**Note:**
Do not release the **<Rev>** button.

Hold the **<Rev>** button for another 1~2 seconds.

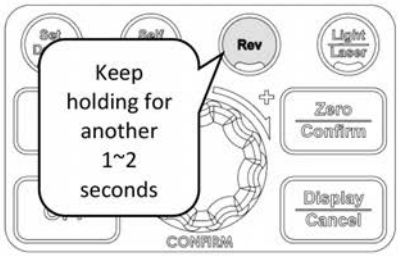
**1.**




**2.**




**3.**



The screen will flash once and a “Sound On” or “Sound Off” message will flow from left to right on the LCD when the command is successfully executed.

The displayed text will indicate the current sound setting of the machine.

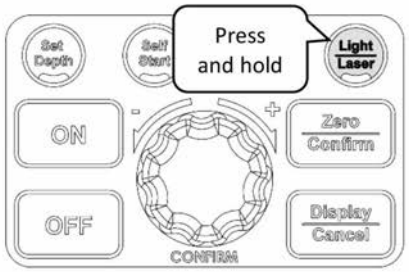
### Changing the power bar settings

Press and hold the **<Light/ Laser>** button and press the **<OFF>** button.

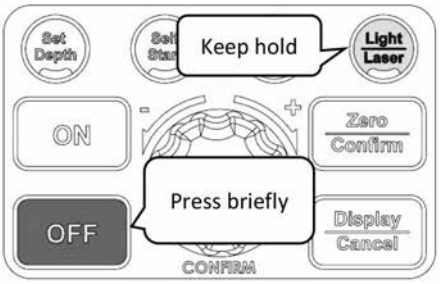
**Note:**
Do not release the **<Light/ Laser>** button.

Hold the **<Light/ Laser>** button for another 1~2 seconds.

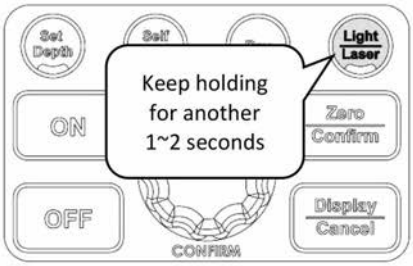
**1.**




**2.**




**3.**




The HMI screen will display one of the following texts depending on mode which the machine is set at:

1. Depth bar.
2. Load bar.
3. Bar off.

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# USING DVR DRILL PRESS

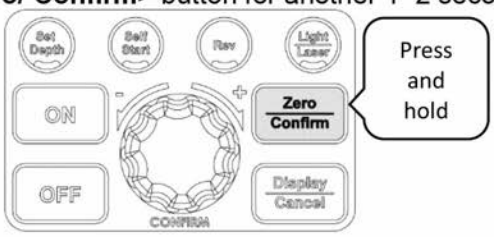
## Calibrating the Drill Press Height Sensor

Press and hold the **<Zero/ Confirm>** button and press the **<OFF>** button.

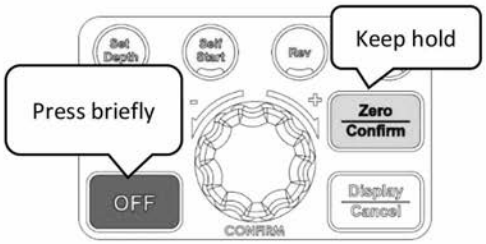
**Note:**
Do not release the **<Zero>** button.

Hold the **<Zero/ Confirm>** button for another 1~2 seconds.

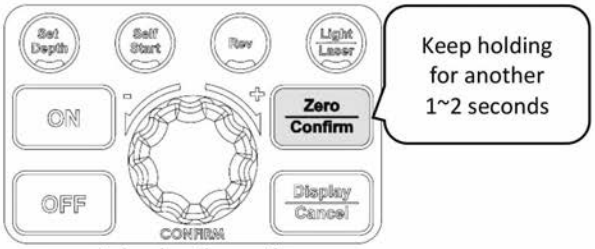
**1.**




**2.**




**3.**




The HMI screen will display a “C” and then a certain depth on the screen.

Extend the drill press quill to the depth that is being displayed on the screen.
Press **<Set Depth>** button to calibrate at the specified depth.

## Unlocking the drill press speed range to 6000rpm

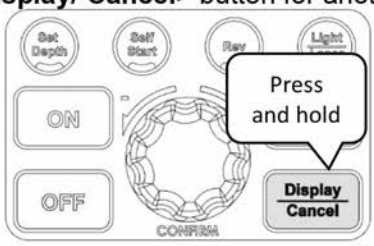
The NOVA Viking drill press can achieve a maximum operation speed of up to 6000rpm (default setting at 3000rpm). This speed is ideal for metal working purposes where it requires very fast rotation speeds.

Press and hold the **<Display/ Cancel>** button and press the **<OFF>** button.

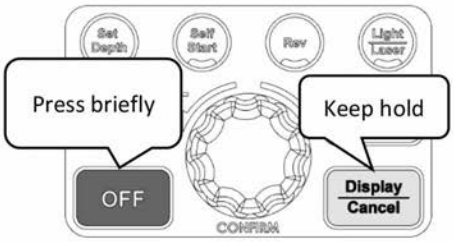
**Note:**
Do not release the **<Display/ Cancel>** button.

Hold the **< Display/ Cancel>** button for another 1~2 seconds.

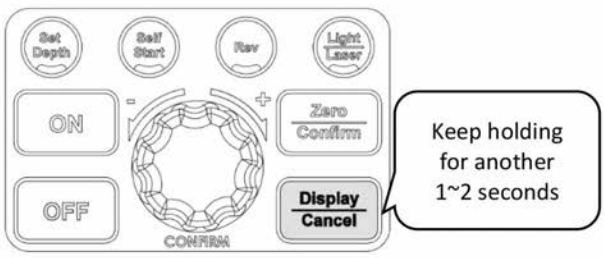
**1.**




**2.**




**3.**



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# USING DVR DRILL PRESS

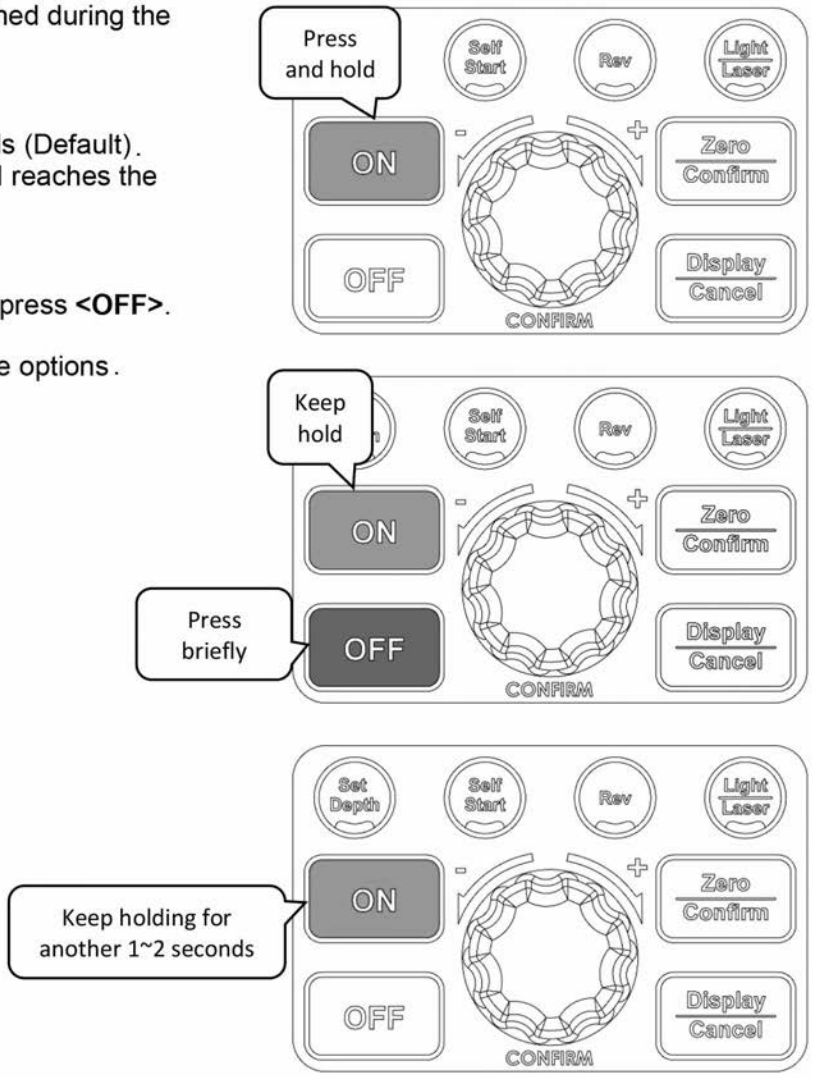
## Changing the drill press depth stop behaviour

The NOVA Viking drill press has 3 different types of behaviour when the set depth is reached during the activation of the depth stop function:

1. Stop at set depth.
2. Stop and reverse for 3 seconds (Default).
3. Stop and reverse until the quill reaches the top.

To change this drill press behaviour:
Press and hold the **<ON>** button and press **<OFF>**.

This will sequentially cycle through the options.



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# FIRMWARE

The HMI software plays an important role in the control and functionality of the NOVA Viking Drill Press. The firmware loaded onto the HMI panel is responsible of controlling the features and performance of the drill press.

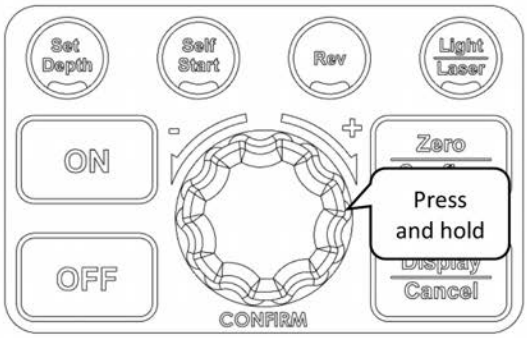
The firmware version of the HMI can be upgraded via the included USB cable accessory and a PC only with internet access. Be sure to check www.teknatool.com periodically for firmware upgrades for your machine, which may allow new features or software improvements that could enhance the performance of the drill press.

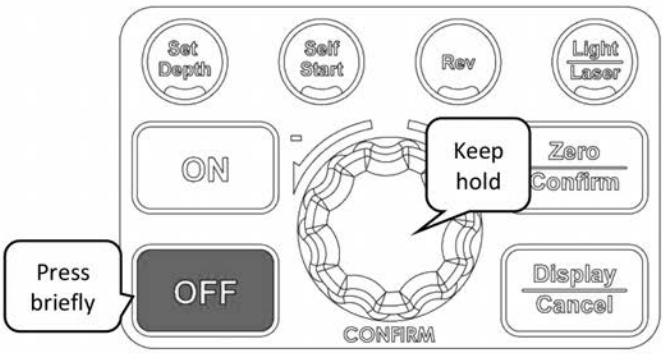
## Checking the firmware version

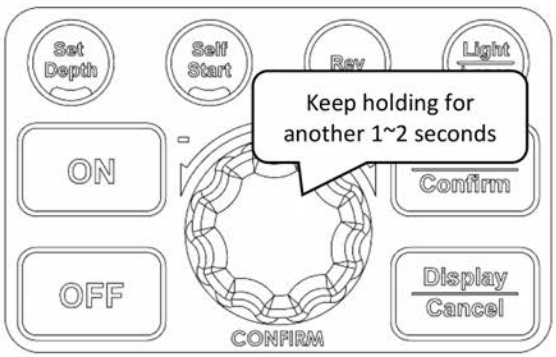
Follow the instructions below to check the firmware version that is currently loaded on the drill press:
Press and hold the **Speed dial** and press the **<OFF>** button.

**Note:**
Do not release the **Speed dial**.

Hold the **Speed dial** for another 1~2 seconds.




Once the command has been entered successfully, the drill press will begin to display the interface firmware version number and the main control board version number in the respective sequence.

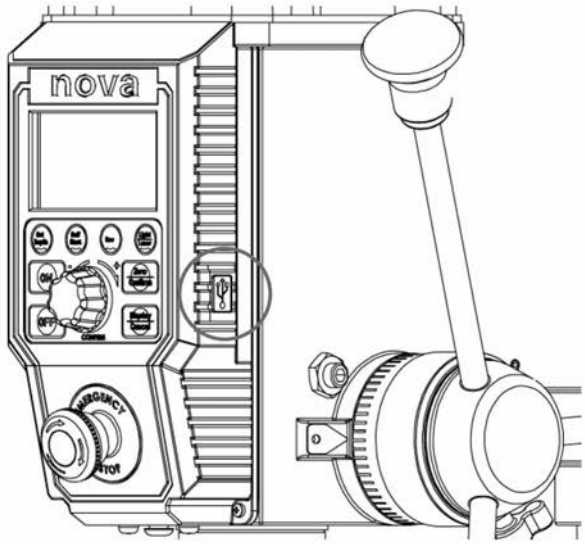
USB mode

When updating the Firmware, the interface must be in USB mode for it to perform the update.

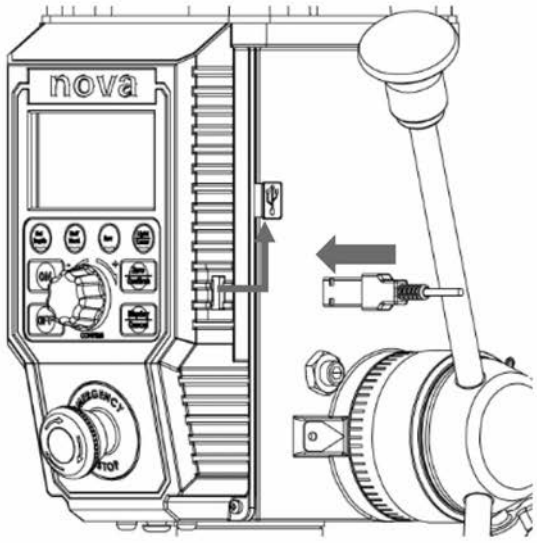
1. Turn off the drill press.
2. Visit the website under the following URL: https://www.teknatool.com/upgrade-your-firmware/.
3. Choose NOVA Viking, and follow the instructions.
4. Download and install the NOVA Firmware update software.
5. Then download the Firmware.

Note: This software is only compatible with Windows operating systems (PC).

6. Remove the rubber cap from the USB port on the right side of the panel.
7. Connect the USB cable to the panel and wait approximately 5 seconds until the screen displays "USB".
8. Launch the NOVA Firmware update software, retrieve and open the Firware file, select “Update”.




**Location of the USB port on the HMI Panel**




**Insert the long side of the included USB A-A cable**

**Note:**

The included USB A – A cable is not a standard cable .

## Mechanical Issue

| Symptom | Place to check | How to resolve |
|---|---|---|
| The attached tool does not run true. | 1. Inside the drill press spindle.<br>2. Morse Tapered tool/ arbour.<br>3. Chuck.<br>4. Attached tool.<br><br>**Note:**<br>The NOVA specification of the axial runout is:<br>±0.02mm on Spindle Morse Taper.<br><br>±0.04mm on end of arbour.<br><br>±0.18mm on end of 100mm straight rod attached to a chuck. | The solution will differ based on where the run out is detected at:<br><br>1. Inside the drill press spindle<br>- The entire spindle assembly should be replaced.<br><br>2. Morse Tapered tool/ arbour<br>- Make sure all the contacting surfaces are cleaned.<br>- If the tool still has runout after all surfaces has been cleaned, try changing the tool to another one.<br><br>3. Chuck<br>- Replace the chuck to another.<br><br>4. Attached tool<br>- Make sure the tool is mounted on the chuck correctly.<br><br>**Note:**<br>When checking the cause of the runout, always make sure to check from the spindle. |
| Quill does not retract back. | 1. Return spring.<br><br>2. Quill and quill housing.<br>- Make sure all surfaces are lubricated sufficiently without excess contaminants.<br><br>3. Handle pinion gear.<br>- Make sure all contacting surfaces are covered with sufficient amount of lubricants. | **Note:**<br>Support the quill to make sure it does not fall out from the headstock.<br><br>1. Carefully release the locking bolt from the return spring housing and hand tighten by rotating it in the anti-clockwise direction. Lock the spring housing by using the locking bolt before releasing.<br><br>2. Extend the quill as far as possible and apply lubricant of relatively high viscosity. Move the quill up and down a couple of times to spread the lubricant.<br><br>3. Remove the handle spring and release the locking set screws to extract the handle from the headstock. Apply lubricants on all contacting surfaces and then reassemble everything back together. |

# TROUBLESHOOTING

| | | |
|---|---|---|
| Laser not aligning with the drill bit. | 1. Drill bit<br>- Make sure the drill bit is not damaged and is mounted onto the chuck correctly.<br><br>2. Chuck and arbour<br>- Check to see if there are any misalignments when mounting the chuck onto the arbour or the arbour onto the quill.<br><br>3. Laser module positioning<br>- If factor 1&2 are confirmed to having no alignment issues, the laser module position should be adjusted. | Secure a test work piece onto the drill press table by any method (clamp, bolt, etc).<br><br>1. Using a small drill bit (typically about Φ3mm) drill a hole into the mounted work piece.<br><br>2. Turn the laser modules on.<br>**Warning: Do not look directly into the laser**<br><br>3. Loosen the grub screws located on the side of the headstock.<br><br>4. Adjust the angle of the laser module so it intersects at the marked point.<br><br>5. Tighten the grub screw back to lock the laser modules into place. |
| Excessive vibration during operation. | 1. Workpiece mounting<br>- Check to see if workpiece is securely mounted.<br><br>2. Drill press base connection security<br>- Check if the drill press base connection is secure.<br><br>3. Drill bit<br>- Check if the drill bit is blunt or not. | 1. Make sure to securely mount the workpiece to ensure no rattling.<br><br>2. Tighten all of the base connecting screws.<br><br>3. Use a sharper bit or sharpen the dull bit. |

## Electrical Issues

| Symptom | Place to check | How to resolve |
|---|---|---|
| Drill press does not turn on (HMI Screen not lighting up). | Firstly, unplug the drill press from its power source and check the following:<br>1. Fuse.<br>2. Damage to the power cable.<br>3. Open the top cover and check all of the connection is secure on the main board.<br>4. Remove the plastic interface unit and check the ribbon cable connection.<br><br>**Note:**<br>Make sure to securely fasten every component back together before connecting the drill press back into power again. | If all connection is connected securely and if there is no light on the HMI screen, the main control board inside the headstock may be dysfunctional.<br><br>Contact our customer services for further assistance. |

## Error Codes

Errors are indicated on the NOVA Viking Drill Press by the HMI screen displaying “Er” followed by the error code.

**Example:**
The motor is stopped when an error is displayed on the screen.


The table below shows the possible error codes which can be displayed.

| Error code | Error Description |
|---|---|
| 01 | Over Voltage |
| 02 | Over Current |
| 03 | Motor running too fast |
| 04 | Motor not starting |
| 05 | Rotation position sensor error |
| 06 | Motor too hot |
| 07 | Main control board too hot |

If an error code is displayed and drill press becomes unusable, please contact our customer services along with the error code that is being displayed. You can also email us at: info@kingcanada.com.
You can also contact Nova directly by email with any questions:
**NOVA Customer Services:** service@teknatool.com (All enquiries must be in writing).

**PARTS DIAGRAM & PARTS LISTS**
Refer to the Parts section of the King Canada web site for the most updated parts diagram and parts list.